

**REMARKS/ARGUMENTS**

***I. Status of the claims***

With entry of this amendment, claims 1, 2, 6, 7, 8, 10-13, 16-18, 20-22, 26-27, 30-33, 36-45, 47, 49-50, 52 and 54 are amended and claims 4-5, 9, 14-15, 19, 24-25, 28, 30, 38, 44, 49 and 54 are canceled. Claims 1-3, 6-8, 10-13, 16-18, 20-23, 26-27 and 29-53 are pending.

Support for the amendments to the claims can be found in the specification and original claims. For example, support for the specific sequences recited in the claims can be found in Table I on page 15 of the application.

In general, independent claims include two sections. One section is directed to polymerases comprising:

the amino acid sequence  
LeuSerXaaXaaLeuXaaXaaProXaaXaaGlu (SEQ ID NO: 1),  
whereby "Xaa" at positions 3, 9, and 10 of said sequence are any  
amino acid residue, "Xaa" at position 6 is Ala or Ser and "Xaa" at  
position 7 of said sequence is Ile and "Xaa" at position 4 is not Glu

These polymerases are supported, e.g., by the *Thermus* polymerases in Table I.

The second section of the independent claims (following "or") is directed to polymerases comprising:

the amino acid sequence LeuSerValXaaLeuGlyXaaProValLysGlu  
(SEQ ID NO: 4), whereby "Xaa" at position 4 is any amino acid  
except Arg and "Xaa" at position 7 is Val or Ile.

These polymerases are supported, e.g., by the *Thermatoga* polymerases in Table I. Support can also be found, e.g., in original claim 10.

No new matter is added by these amendments.

***II. Interview***

Applicants thank the Examiner for the helpful phone interview on April 21, 2005. Applicants and the Examiner agreed in general terms that language such as found in the present claims has sufficient structural support in the specification and overcomes the cited art.

**III. Rejection under 35 U.S.C. § 112, second paragraph**

Claims 1-52 were rejected as allegedly indefinite under 35 U.S.C. § 112, second paragraph for use of the term "native form." As the claims no longer use the term "native form", Applicants respectfully request withdrawal of the rejection.

**IV. Rejection under 35 U.S.C. § 112, first paragraph: enablement**

Claims 1-52 were rejected as allegedly not enabled under 35 U.S.C. § 112, first paragraph. Applicants respectfully traverse the rejection.

In view of the interview, it is Applicants' understanding that the amended claims are enabled by the present application. Accordingly Applicants respectfully request withdrawal of the rejection.

**V. Rejection under 35 U.S.C. § 112, first paragraph: written description**

Claims 1-52 were rejected as allegedly not meeting the written description requirement under 35 U.S.C. § 112, first paragraph. Applicants respectfully traverse the rejection.

In view of the interview, it is Applicants' understanding that the amended claims fulfill the written description requirement. Accordingly Applicants respectfully request withdrawal of the rejection.

**VI. Rejection under 35 U.S.C. § 102**

Claims 1-3, 9-13, 19, 20, 39, 40, 43, and 44 were rejected as allegedly anticipated under 35 U.S.C. § 102(e) by U.S. Patent No. 6,015,668 (the '668 patent). The Examiner based the rejection in part on the clarity of the claims (involving use of "native form" as discussed above) and argued that the '668 patent described a recombinant *Thermatoga* DNA polymerase within the scope of the claims. Applicants respectfully traverse the rejection.

As amended, the claims do not encompass the sequence described in the '668 patent. Accordingly Applicants respectfully request withdrawal of the rejection.

***VII. Rejection under 35 U.S.C. § 103***

Claims 21-23, 28-34, 37-38, 45, 48-50 and 53-54 were rejected as allegedly obvious under 35 U.S.C. § 103 in view of U.S. Patent No. 6,015,668 (the '668 patent) and Wiemann. The Examiner argued that while the '668 patent did not describe packaging of labeled nucleotides as recited, Wiemann taught the use of a dye terminator, creating a motivation to use the recited labeled nucleotides with the polymerase of the '668 patent. Applicants respectfully traverse the rejection.

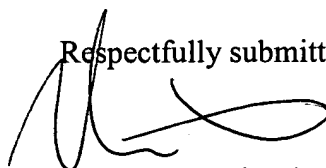
The '668 patent does not teach or suggest DNA polymerases recited in the amended claims. The addition of the Wiemann reference does not cure this defect. Therefore, it was not obvious to make or use the claimed subject matter. Withdrawal of the rejection is therefore requested.

**CONCLUSION**

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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